

COURSE CODE	COURSE TITLE	L	T	P	C
1152AE133	RAMJET AND SCRAMJET PROPULSION	3	0	0	3

**Course Category:**

Programme Elective

**a. Preamble :**

This course deals with the propulsion in Ramjets and Scramjet engines. This course deals with understanding the differences between Ramjet and Gas Turbine engines

**b. Prerequisite Courses:**

Aircraft Gas Turbine Propulsion

**c. Related Courses:**

- Hypersonic Aerodynamics
- Combustion in Jet and Rocket engines

**d. Course Educational Objectives :**

- To understand the concept of Ramjets and Scramjets for Aircraft propulsion applications
- To analyze the performance of Ramjets and Scramjets

**e. Course Outcomes :**

Upon the successful completion of the course, students will be able to:

CO Nos.	Course Outcomes	Knowledge Level (Based on revised Bloom's Taxonomy)
CO1	Discuss the basic concepts and operating principles of Ramjets and Scramjets	K2
CO2	Compute the performance parameters of Ramjets	K3
CO3	Discuss the propulsion considerations of Hypersonic vehicles	K3
CO4	Analyze the supersonic combustion in Hypersonic vehicles	K3
CO5	Analyze the performance of inlets for Scramjets	K3

**f. Correlation of COs with POs :**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	H			H				H				
CO2	H			H				H				
CO3	H			H				H				
CO4	H			H				H				
CO5	H			H				H				

H- High; M-Medium; L-Low

**g. Course Content :**

**UNIT I INTRODUCTION TO RAMJETS AND SCRAMJETS**

9

Use of Ramjets in aircraft propulsion- Operating principles- Thermodynamic cycles- Performance parameters- Principles of Scramjet

